

# CASTLEMAINE

## NATURALIST

SEPT '83

'83



*Eriostemon verrucosus*

'Fairy wax flower'

'Bendigo wax flower'

### A FEW DAYS' HOLIDAY, ANYONE?



ROADSIDE VIEW, KINGSTON, S.E.

what I felt was its quite unexpected flora. Plants I particularly enjoyed were a leafless wattle (Spiney wattle?) and a dainty pea flower we saw on the Coorong (I'd forgotten my reference books!) and the unexpected blacken, and bright pink common fringe-myrtle (*Calytrix tetragona*) on the Kingston-Narracoorte road.

We didn't see a lot of birds this time, but heard lots in the the scrub near the Coorong, but the water birds were well scattered because there were so many lakes full and so much water just lying on the ground.

Another spot near to Kingston, recommended by a 'new' local, was a place called the 'Granites', which she said was a good place for flowers, and birds. Of course, Kingston is also a very famous spot for lobsters!

RITA MILLS.



## BIRDS OF THE ARID REGIONS

a report from Audrey Bruton

Cont. from August Issue.

Dr. Ed. Wyndham spoke about 'The Breeding Season of Birds, in Arid and Non-arid areas'. He began by saying that there is a paucity of data in this area, and few observations have systematically been carried out. He quoted Magill... 'In bad seasons birds do not breed to any extent ..... birds may breed at any time of the year according to rainfall'. Immelman and Serventy agree with this and add... 'this opportunistic breeding is a characteristic of arid zone birds'.

Dr Wyndham's own experiments and investigations are extensive, scientific and world-wide in range. He came up with these findings: there is no evidence of an association between breeding and aridity, as opposed to the view of Immelman, Serventy and others.

Arid regions of Australia span 20 deg. latitude, and climatic conditions in this area are dramatically different, so that results in these areas cannot be lumped together. Seasonality is about the same in arid and non-arid areas. Seasonality in Australia is not much different than in Africa in similar latitudes.

Dr. R. Lange, Reader in the Botany Department at Adelaide University, gave a spirited, highly technical, profusely illustrated talk on 'Vegetation in the Arid Zone'. After expressing fear that a botanist wouldn't be able to say much to 'birdos' he stunned us by producing fearsome equations, calculated by logarithms, and settled into one of the most fascinating lectures of the day.

His field of study is also Middleback Station, where his students are on a 24 hour-a-day roster, counting sheep-droppings in a gridded area, to determine rate of usage by grazing sheep, stocking pressure, and which plants are endangered in the grazing system.

He found that stocking pressure is graded from too much to none at all over any given area, and was able to demonstrate this pattern so that even birdos could understand, by means of a polystyrene model in graded layers, that showed areas of great use around favoured waterholes for instance, and other areas into which the stock never went, so that these areas remained virtually in their native state.



Dr Lange's solution is to divide each station into small paddocks, and to stock these paddocks with small flocks, and in this way pressure on the environment is so reduced that the plants are able to survive. Only two sheep stations in S.A. are currently providing this kind of protection of the habitat. On these stations permanent pastures CAN be obtained and maintained under such management. The difficulty is to get the graziers of S.A. interested enough in the preservation of environment, rather than the preservation of profit, to put these ideas into practice.

Stephanie Williams is a post graduate of Cornell University, presently working on a project for her doctorate at Brookfield, a property 150 km north and east of Adelaide, on the edge of an arid area. Stan will have more to say about Brookfield, and his visit there.

Stephanie and other researchers from the U.S.A. are studying the effect of artificially supplied surface waters on bird-life of that area. The questions Stephanie is asking are : How does artificial provision of water - station dams, troughs, tanks, etc.- affect an area? How much do birds become dependant for survival on such provision?

There are three areas of field study; Brookfield itself, which for 39 out of the past 50 years has seen practically no rain; a control area 30 km south on which no water will be supplied; and Portee station, which lies between these two areas. She will be studying a section of bird-life which has had no relief from sheep grazing for many years.

No results of Stephanie's research has been analysed yet, but these points are to be considered : Increased supply of surface water may increase the number of birds that can survive. Honeyeaters, barnardius parrots, pardalotes and native pigeons are among the species involved. Availability of water may also increase breeding activity, especially amongst these birds who need water to make mud nests - choughs, mudlarks, etc. In six months the team has observed 55 species of birds on all 3 sites, and most of them show on all sites. Emus, parrots pigeons, cockatoos, Cavens magpies and honeyeaters use the water troughs at all seasons of the year, even when temperatures are down to 12 deg and less. As temperatures rise to 25-30 deg. other species come in to use the water.

The team bears in mind that provision of water is not necessarily a good thing - it could bring other birds not natural to the area, increase stress on food sources, encourage feral cats and foxes to decimate the bird populations, and so on.



4 To fully understand and evaluate all these effects will be critical for the preservation of natural areas.

Our last speaker was Dr. Michael Flemming, from the Northern Territory, whose theme was the 'Influence of the Recent Past on Birds of the Arid Zone - current and future management policies'.

By this time certain portions of our anatomy were rather numb, and although my writing hand was still working automatically, I did fail to catch one or two vital points. However, Dr Flemming's talk was full of interest, and made a fitting finale to a great day.

Important changes have certainly occurred in the arid zones of the N.T. in the recent past, and these were dealt with under three headings:

(a) Habitat change, as a result of grazing mammals, e.g. feral horses, donkeys, camels, rabbits etc. The apparent extinction of the thick-billed grass wren is due to these changes. The last nest and eggs were seen in 1956. Grass plains east and north of Hermansburg were the bird's chosen habitat. Now these plains are heavily stocked and degraded.

Direct competition has also been implicated in the decline of the flock bronze-wing. Stewart, in 1862, caught 'sight of very large flocks of pigeons coming to the waterholes'. They are considered to feed on the seeds of Mitchell grass, but cattle now graze these grasses and leave no seed production. Bronzewings are reduced to picking undigested seed from cattle dung.

Another species unable to compete with cattle is the mallee fowl. In earlier years it was quite common in the N.T. Eggs were brought into Warburton as recently as five years ago. Habitat was mulga scrubland, but cattle removed the seeds of native grasses and modified the mulga understory.

(b) Change of fire pattern. In days of aboriginal wandering their firing patterns produced great diversity of flora. Now aborigines are sedentary around stations, and there has been great reduction in mallee floras, so the birds have been affected. The rufous crowned emu wren and the spinifex bird are usually found in areas of mature spinifex with shrub overstory, but the spinifex has been reduced, and so the range of the birds is reduced. Fire has, however, promoted some nectar-bearing shrubs such as grevilleas, and this has brought honey-eaters and other nectar-using birds to the area.

(c) Increased predation. Many species have fallen to cats dogs, foxes and feral caucasian man. Bustard and emu are popular food items for aborigines who, in N.T., are permitted to take native game, which otherwise is totally protected.

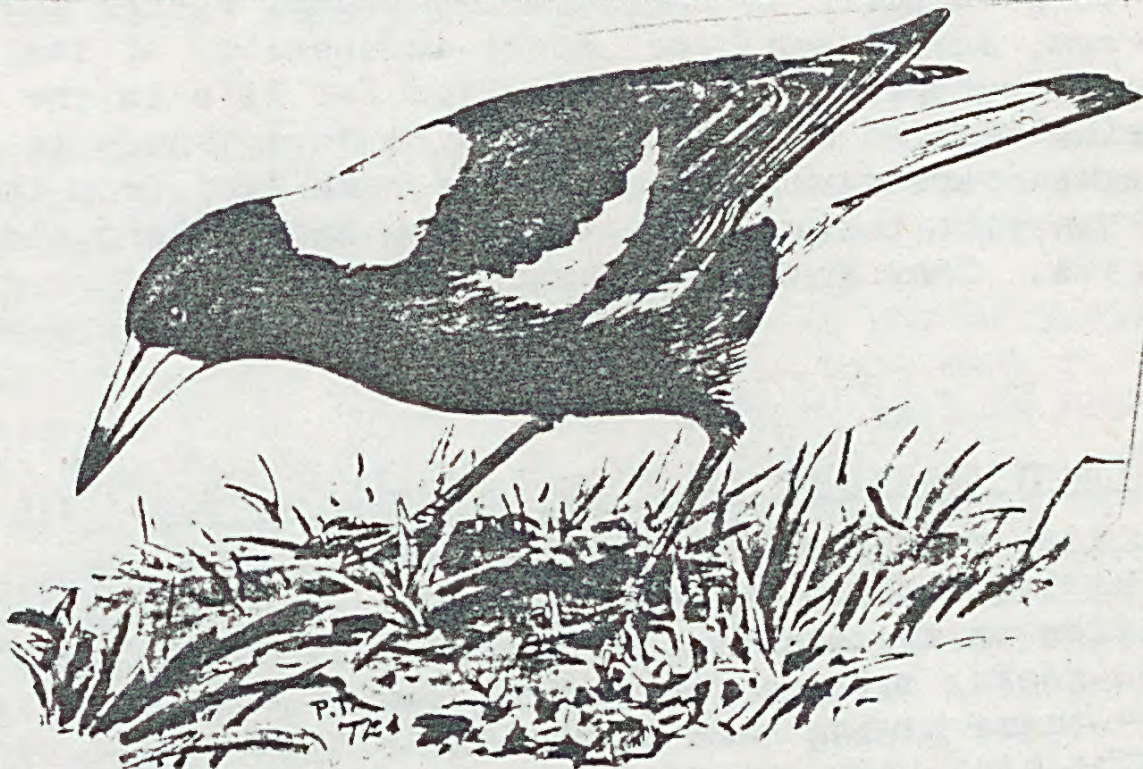


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Breeding population of these birds are now exposed by a series of all-weather beef roads, which enable aborigines in cars to keep up with these highly mobile birds.

The princess parrot, *Polytelis alexandrae*, is an endangered species. Breeding records are very few, the last in 1963 at Hermansburg. These parrots breed in dispersed pairs, which come into flocks again in winter. Over the years their breeding has been associated with low rainfall. They breed in drought, in fact, but along water-courses where there is seeding grass.

A viable management pattern for the future must take all these environmental factors into consideration. State conservation bodies should become active land managers over the entire arid zone, providing suitable patterns of protection and fire management. Fire will be a primary tool, so that diverse plant populations will result by predetermined fire planning. Management of feral animals is also crucial, not concentrating on a single species, but on management that will control habitat for birds in a general way.



Black-backed Magpie searching for food

Escorted Outback Tours are offering a Caravanning-Camping weekend in the Little Desert, Friday 14 Oct - Sunday 16 Oct. Costs: \$15 each or \$30 per family. Patrons to supply own meals and equipment.

Circular letter and application form available at the meeting

Contact Escorted Outback Tours, 111 Nelson St., Nhill. 3418 for reservations. Phone 053-911 021 (B.H.) or 053-915 233 (A.H.)



# Snakes

Cont.

by Terry Collins.

The Sea snakes of the family 'HYDROPHIIDAE' are the only true marine snakes. They are found throughout the Equatorial and Tropical seas from the east coast of Africa to South America but excluding the Atlantic. In Australia they are found around the Northern Coastline where 32 species have been recorded. They are well adapted to their marine existence and only come ashore rarely. On land they are ungainly, especially in comparison to their terrestrial cousins. They have two nostrils on top of the head and a flattened tail which propels them through the sea. They eat fish:- recent research has shown that they eat tropical spiny fish, swallowed whole. The fish spines penetrate through the stomach wall and gradually work their way out through the scales where they lost. Sea snakes are viviparous; that is, they bear live young, giving birth in a similar manner to mammals. Once born the young are independent of the mother. By evolving the ability to give birth to fully formed young, rather than laying eggs, sea snakes have become independent of land. They are therefore more highly evolved for life in the sea than marine turtles which still need to come ashore to lay eggs.

Sea snakes are venomous and people have died from their bites. However, they rarely attack man and if left alone are inoffensive. They are front fanged but the fangs are small.

To be concluded.

From the 'Mount Alexander Mail', Wed. Sept. 9, 1868. 115 years ago!

The Deniliquin Chronicle states that last week Mr. W.A. Brodribb brought two animals to Deniliquin, which had been captured on his station on the Lachlan. They are of the opossum character and live on roots, but are very seldom seen, as they are great burrowers - these having been caught after digging some 14 or 15 feet. The hind legs are similar to those of a wallaby, having three claws or toes, while the fore legs, which are shorter, are provided with five. The ears are long like those of a rabbit, but not so long as those of a native cat. The head terminates in a snout, and the mouth is provided with two sharp double rows of teeth. The body is covered by exquisitely fine fur, more like down than anything else, of a slate or leaden colour. The name given by the natives to these animals we understand is "Beelbah".



## CLUB PROGRAMME

### Meetings

- September; Friday 9th - Birds, Insects and Men on the Moon!  
a slide evening with Max Palmer. High School.  
Thursday 22 - Business meeting. Ed Centre.
- October Friday 14th - 'Birds of the Gulf Country'  
Maggie Oliver. High School.  
Thursday 27 - Business meeting. Ed Centre.
- November Friday 11th - Reserves and the Castle maine  
district. Speaker, Mr Geoff Gerdson, Lands Dept.  
Ranger. High School.  
Thursday 24 - Business meeting. Ed Centre
- December Friday 9th - Members and visitors night. Start  
hunting up a few of those special nature slides  
to share with the other members. Or perhaps you  
have a display of special shells/ or rocks? or  
butterflies? or case-moths?  
This is our Christmas breakup.

### Outings

- September \* Saturday 10th. ICC Block 74n, on the Maldon Railway  
line. We have not visited this area before. We want  
a bird and plant list for the block. Leader E. Perkins.  
Meet SEC Mostyn St. Leave 1.30 sharp.
- \* Monday 19th - Show Day Walk. Leave SEC at 9.15am for  
Wildflower Reserve, Fryers Ridge. Walk back to Castlemaine  
via the Monk. Bring lunch. Drivers will be needed  
to take the party out in the morning,
- \* Sunday 25th - Bird Observers' Club excursion to  
Dargyle forest, near Heathcote. From Melbourne  
"turn right into Chauncery Road. Drive for 6km.  
There will be BOC signs to direct you into Plant-  
ation Road. Dargyle forest entrance is 4 km on  
the left. Parking area  $\frac{1}{2}$  km near picnic tables."  
Time: 10.30 am at Dargyle. If you are interested  
contact K. Turner or M. Oliver.
- October \* Saturday 8th - Mt Lofty - not South Australia but  
the Redesdale area, to visit blocks of bush not  
visited before by the Club. Birds and wildflowers.  
Leave the SEC 1.30 sharp. Leader E. Perkins.
- Note earlier date, to avoid clash with W.V.F.N.C.
- \* Saturday and Sunday 15-16 Oct. Bacchus Marsh Camp=  
out hosted by Ballarat Club. The Secretary will  
need to know the names of those who intend to go  
by the 20th of September.



- 8 For further information about the accomodation details see the August issue of 'Castlemaine Naturalist'.

November \*Saturday 12th Mt Franklin North. Excursion location is a few miles north of Mt Franklin. We have invited Maryborough club to join us. Leave SEC at 1.30 pm sharp.

### WEDNESDAY EVENING EXCURSIONS

We will again, <sup>hold</sup> Wednesday Evening Spring excursions; all start at 4.15pm. Note that meeting places vary from week to week.

- Sept 14 Kalimna - meet Cr Hunter St and Kalimna Tourist Road (near Pressure Dam). A walk through Kalimna East. Leader, E. Perkins.
- Sept 21 Birds of the Gardens. Meet at the Barbecue car park, Botanic Gardens. Leader M. Oliver.
- Sept 28 Gower School, on Maldon Road. Meet at Gower School. Leader K. Turner.
- Oct 5 Castlemaine North. Railway flora. Meet 118 Blakeley Rd. Leader R. Mills
- Oct 12 Campbells Creek. Crown Lands reserve. Meet at Campbells Creek school. Leaders, G. Gerdson, E. Perkins.

We need to arrange excursions for the remainder of October and early November. Will you be able to take a group to your favorite spot? Let a committee member know if you will, please.

### Supper Roster

- Sept - Ann Joyce and Wallace Ogilvy.  
Oct - Berri Perry.

### Treasurer's Report Balance in bank - \$87-44

Western Plains Symposium - A Natural and Social History. Conducted by the Western Victorian Branch of the Australian Institute of Agricultural Science, in Association with the Colac Field Naturalists Club, to be held in the Colac R.S.L. Club, Murray St., Colac, Sat and Sun, 8th and 9th Oct. Cost per day is \$30 per person. A very diverse programme with lectures on the Saturday and a choice of tours on the Sunday promise a very worthwhile weekend. Speakers include Mr Bernie Joyce, Lecturer, Dept of Geology, Uni of Melbourne; Mr David Conley, Pasture Specialist, Dept of Agriculture, Colac; Dr Jim Willis; Mr John Seebeck, and others. For the tours the groups will travel by bus. A brochure is available at the meeting. Registration is required by Sept 23.